

Application No. 10/807,235

REMARKS

Claims 1-20 are pending in this application. By this Amendment, claims 1 and 20 are amended to more fully distinguish the claimed invention from the cited reference.

No new matter is added by this Supplemental Amendment. Support for the language added to claim 1 can be found in paragraph 23 of the specification. Support for the language added to claim 20 can be found in paragraph 7 of the specification.

The courtesies extended to Applicants' representative by Examiner Port at the interview held January 28, 2005, are appreciated. The reasons presented at the interview as warranting favorable action are incorporated into the remarks below and constitute Applicants' record of the interview.

I. Claims 1-19

Claims 1-7 and 9-19 were rejected under 35 U.S.C. §102(b) as allegedly being anticipated by Osten, H.J. et al., "High-K Dielectrics with Ultra-Low Leakage Current Based on Praseodymium Oxide," IEEE (2000), pp. 28.5.1-28.5.4 ("Osten"). Claim 8 was rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Osten. These rejections are respectfully traversed.

As discussed in detail during the January 28, 2005, interview, thermally treating the substrate and the metallic oxide film to mix constituent elements of the substrate with constituent metallic oxide elements of the metallic oxide film throughout the metallic oxide film to form the metallic oxide film of high dielectric constant on the substrate as recited in claim 1, is clearly not taught or suggested by Osten.

Osten clearly teaches that mixing is carried out to some degree near the interface between the Si substrate and the Pr_2O_3 film. Mixing does not occur throughout the Pr_2O_3 film because no significant hysteresis is observed. See column 3 of Osten. Further, the

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diffraction peak relating to the Pr_2O_3 film is observed (see Figure 1 of Osten), and the interface between the Si substrate and the Pr_2O_3 film is observed (see Figure 2 of Osten).

Thus, Osten does not teach or suggest that mixing is carried out throughout the Pr_2O_3 film as recited in claims 1-7 and 9-19. Reconsideration and withdrawal of the rejection are respectfully requested.

II. Claim 20

During the January 28 interview, Examiner Pert alleged that the term "polycrystal" recited in new claim 20 is a matter of degree and it is unclear to him the size of the polycrystals. Examiner Pert suggested that by amending claim 20 to recite "minutely polycrystal" would place the claim in better condition for allowance. Accordingly, Applicants have amended claim 20 as suggested by Examiner Pert.

Furthermore, Examiner Pert has admitted that Osten teaches that its metallic oxide films are crystalline and not amorphous or minutely polycrystal as recited in claim 20.

Accordingly, Applicants submit that Osten does not teach or suggest the metallic oxide film of high dielectric constant as recited in claim 20. Thus, allowance of claim 20 is respectfully requested.

III. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-20 are earnestly solicited.

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Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,

Leana Levin

James A. Oliff
Registration No. 27,075

Leana Levin
Registration No. 51,939

JAO:LL/rav

Date: February 16, 2005

OLIFF & BERRIDGE, PLC
P.O. Box 19928
Alexandria, Virginia 22320
Telephone: (703) 836-6400

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